

REMARKS

Claims 2-12 are in the application. Claim 1 has been replaced by claim 12 and the dependencies of the remaining claims have been corrected accordingly.

As requested by the Examiner, a copy of Austrian reference AT400910B is enclosed herewith.

Concerning the objection to the drawings, submitted herewith is a copy of original Fig. 5 with proposed drawing changes. Specifically, Fig. 5 now shows the "sound receiver". The specification has been additionally amended to include the reference numerals added in Fig. 5.

Since the sound receiver was recited in the original claims, no new matter has been added.

Also, as required in the Office Action, corrected drawing Figures 1-3 are enclosed in which these Figures are designated by the legend --PRIOR ART--.

With respect to the rejection of the claims under 35 U.S.C. 112, second paragraph, the Examiner will note that the term

"magnetostrictive" has been deleted from the claims. This change was made because the Examiner is correct in stating that magnetostrictive and electrostrictive transducers operate differently and, therefore, the scope of the claims as originally filed was not clear. Also, magnetostrictive elements are not used in electroacoustic transducers for practical reasons. However, it is emphasized at this point that the removal of the term magnetostrictive was not made in order to distinguish over the prior art and, thus, the doctrine of equivalents will not be affected by this change.

As is now clear from the presentation in Fig. 5, the sound receiver of claim 6 is a different component.

Reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. 102(b) as being anticipated by Bernstein, are respectfully requested.

Applicants respectfully submit that the reference to Bernstein does not disclose or suggest the invention as claimed in claim 1 of the present application.

The reason why the reference does not anticipate the present invention is the fact that the reference does not mention

electrostrictive elements. Only the introduction of the reference generally fits elements which are suitable for converting acoustic signals into electrical signals, among them piezoelectric materials. The reference does not at all mention the properties, the assembly, the use or possible advantages of these elements. Piezoelectric elements are usually used in the field of acoustics for converting electrical energy into sound energy and vice versa. The mounting and dimensioning of the piezoelectric element for this purpose differ significantly from the mounting and dimensioning of those electrostrictive elements which are provided in the present application for the purpose of changing the volume in the electrostatic transducer. Therefore, it was not obvious to use electrostrictive or magnetostrictive elements as actuators which effect volume changes through geometric length changes.

Reconsideration and withdrawal of the rejection of claims under 35 U.S.C. 102(b) as being anticipated by Murayama, are also respectfully requested.

The reference to Murayama describes a diaphragm which is capable of vibrating and is provided with a piezoelectric layer, wherein the diaphragm is part of a capacitor microphone. The acoustic signals are converted in accordance with the

electrostatic manner of operation of a classic capacitor microphone into electrical signals. In addition to this signal, the deformation of the piezoelectric layer of the diaphragm produces a piezoelectric voltage. By superimposing this traditional piezoelectric voltage, it was possible to increase the sensitivity of such capacitor microphones. The reference does not provide for a deformation of a diaphragm which exists also in the position of rest and is caused by applying an external voltage source which is independent of the signal output.

However, new claim 12 has been presented to distinguish the present invention over the reference to Murayama.

The present invention has the purpose of producing changes in the acoustic friction of the transducer in a targeted manner without influencing the diaphragm or changing the properties of the diaphragm. However, the change of the acoustic friction can take place in a large variety of ways, for example, by influencing the spacer ring between the diaphragm and the electrode, by effecting changes at the electrode, and also by effecting changes at the housing behind the electrode.

In order to take these possibilities into account, while simultaneously delimiting the claim over the references, the claims have been limited to an electrostatic microphone.

Second, the claims have been rewritten to make it clear that the piezoelectric elements can be arranged everywhere except at the diaphragm and, third, it is explicitly stated that the piezoelectric elements are provided with voltage by a separate electrical circuit which must be independent from the decrease of the signal of the transducer.

Therefore, in view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Any additional fees or charges required at this time in connection with the application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,  
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By: *F. Kueffner*  
Friedrich Kueffner

Date: December 22, 2003

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FIG. 1  
PRIOR ART

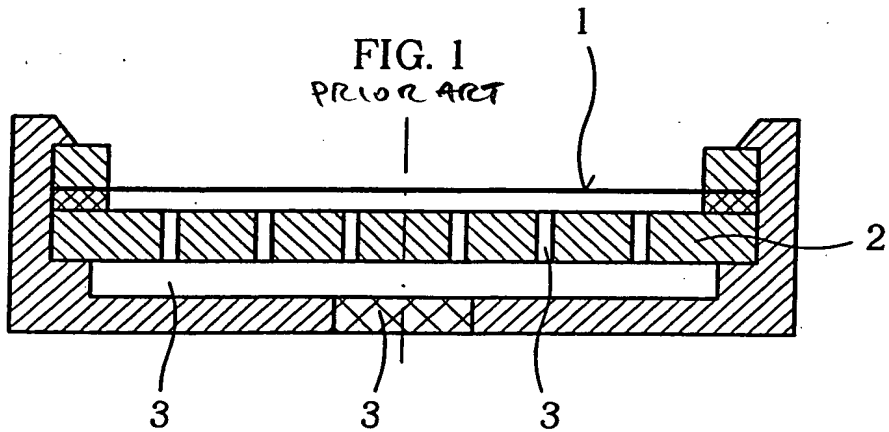


FIG. 2  
PRIOR ART

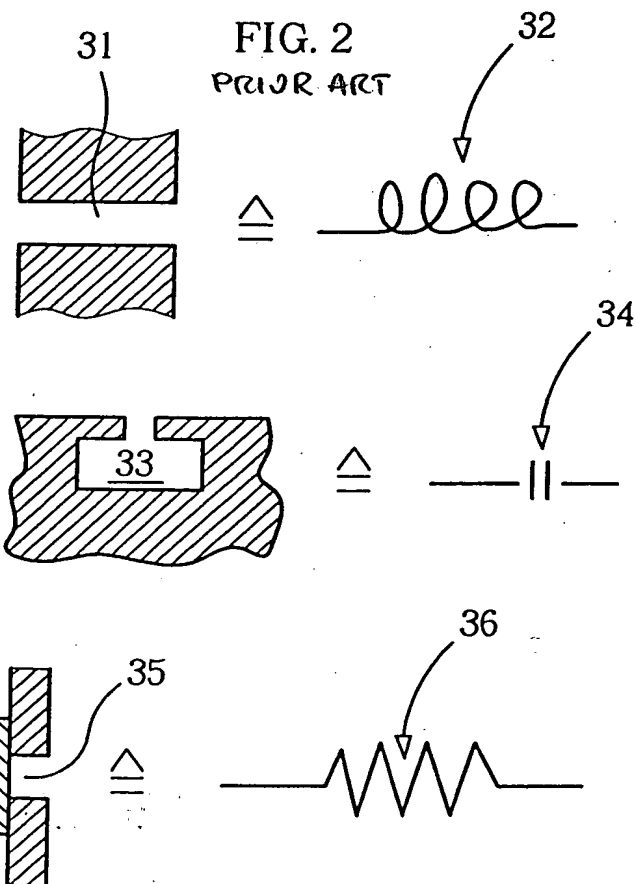
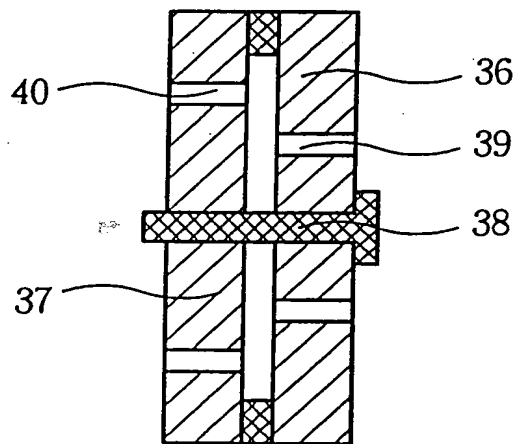


FIG. 3  
PRIOR ART



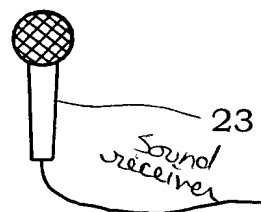
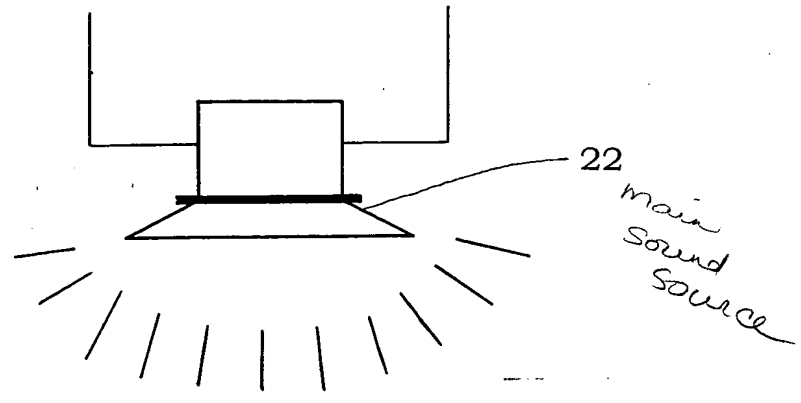


Fig. 5

